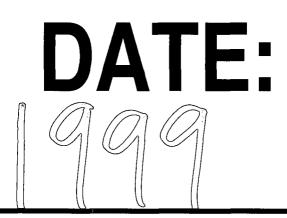


# REPORTS





633 Seventeenth Street Suite 1550 Denver, Colorado 80202

April 27, 1999

**CERTIFIED MAIL** 

Mr. William C. Olson New Mexico Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

RE: April 1999 Progress Report Tatum Pit Closure Project Lea County, NM

### RECEIVED

MAY 0 6 1999

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. These results are from water samples taken on April 1, 1999. These samples represent the seventh quarter of monitoring. We will continue to analyze water samples quarterly.

In our January 1999 progress report, we requested final closure for these projects: Vera (pit and monitor well #5) and State NBN (pit and monitor well #7). In your letter dated March 29, 1999, you requested a water table potentiometric map as well as the magnitude of the hydraulic gradient at these sites to complete your review of our request. Please be advised that we are currently constructing this data and it will be forwarded to you as soon as it is completed.

Additional monitor wells were constructed March 15-16 at the following pit sites: Bell A, State NBF, Sohio 1, Sohio A, and GS State. Complete water analyses from these new monitor wells are included in this report. It appears that an additional monitor well will be necessary for the Sohio 1 and Sohio A pit sites. These will be installed accordingly.

If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Jamy G &

Larry G. Sugano Vice President - Engineering

cc: NMOCD Hobbs Office

Enclosures



#### **Executive Summary**

#### Iva COM

Having completed six consecutive quarters of sampling monitor wells 1 & 2 with no BTEX component exceeding WQCC standards, we began a sampling program from the source well. The results are presented in this report. We do not plan to continue to sample wells 1 & 2.

#### Mable COM

Monitor well #3 has passed six consecutive quarters with no BTEX component exceeding WQCC standards. We do not plan to continue monitoring the location, but will provide complete analyses (RCRA 8 metals, BTEX, and major cation / anions) at the conclusion of the sampling program for the source well. Monitor well #4 showed a slight increase in BTEX concentrations reflecting a normal seasonal increase in water table levels. The source well shows moderate benzene and xylene concentrations.

#### Vera

The analytical results of six consecutive quarterly samplings described in our February 16<sup>th</sup> summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

#### Bell A

Monitor wells 6, 13 & 14 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#25) was drilled a distance of 150' southeast of the mid-point of wells 13 & 14. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17265).

#### NBF

Monitor wells 8, 15 & 16 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#26) was drilled at a distance of 150' southeast of the mid-point of wells 15 & 16. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17266).

#### NBN

The analytical results of six consecutive quarterly samplings described in our February 16<sup>th</sup> summary revealed no BTEX component concentration in excess of WQCC standards. Tipperary requests final closure of this pit.

#### Sohio State #1

Monitor wells 10, 17 & 18 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#28) was drilled at a distance of 150' southeast of the mid-point of wells 17 & 18. The drilling log is included within this report. The analytical results of water samples obtained from this new wells reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17268). A fifth monitor well will be drilled, cased, developed and tested.

#### Sohio State A

Monitor wells 10, 19 & 20 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#27) was drilled at a distance of 150' southeast of the mid-point of wells 19 & 20. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect acceptable RCRA 8 metals and cation / anion concentrations however the BTEX concentrations are in excess of WQCC standards. (See Environmental Labs of Texas log no. 17267). A fifth monitor well will be drilled, cased, developed and tested.

#### G.S. State

Monitor wells 21 & 22 show normal increases in BTEX concentrations due to seasonal changes within the water table. An additional delineation well (#29) was drilled at a distance of 150' southeast of the mid-point of wells 21 & 22. The drilling log is included within this report. The analytical results of water samples obtained from this new well reflect no BTEX, RCRA 8 metals or cation / anion concentrations in excess of WQCC standards. (See Environmental Labs of Texas log no. 17269).

#### Satellite #4

BTEX concentrations within monitor wells 9 & 23 remain essentially unchanged from the January, 1999 sampling round.

Page 2

ENVIRONMENT LAB OF , INC.

TIPPERARY ATTN: MR. VICTOR A. VICE P.O. BOX 857 TATUM, NM 88267 FAX: 505-398-6510 FAX: 281-646-8996

Receiving Date: 04/02/99 Sample Type: Water Project : None Given Project Location: None Given Analysis Date: 4/05 & 4/06/99 Sampling Date: 04/01/99 Sample Condition: Intact/Iced

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/i)	ETHYLBENZENE (mg/l)	m.p-XYLENE (mg/i)	o-XYLENE (mg/l)
1 <b>7428</b>	Iva Com Source Well	2.05	4.15	0.902	5.50	3.80
17429	Mable Com Source Well	0.486	0.432	0.066	1.00	0.713
17430	Mable Com #4	0.012	0.008	0.002	0.010	0.006
17431	Bell A #6	0.139	0.013	0.006	0.011	0.006
17432	Bell A #13	0.021	0.018	0.003	0.009	0.006
17433	Bell A #14	0.108	0.015	0.004	0.009	0.005
17434	NBF #8	0.032	0.002	0.004	0.003	0.001
17435	NBF #15	3.11	1.98	0.214	0.767	0.435
17436	NBF #16	3.15	0.164	0.0 <b>78</b>	0.219	0.098
17437	Sohio St. #1- #10	2.34	0.067	0.168	0.203	0.100
17438	Sohio St. #1- #17	1.35	0.092	0.0 <b>79</b>	0.248	0.138
17439	Sohio St. #1- #18	3.35	0.331	0.114	0.469	0.280
17440	Sohio St. #1- #28	0.446	0.065	0.011	0.041	0.058
17441	Sohio St. A - #11	0.048	0.008	0.004	0.014	0.010
17442	Sohio St. A - #19	0.026	0.010	0.006	0.016	0.010
17443	Sohio St. A - #20	0.547	0.011	0.005	0.030	0.009
17444	Sohio St. A - #27	0.056	0.007	0.006	0.007	0.01 <b>3</b>
17445	G.S. State #21	0.124	0.008	0.042	0.012	0.007
17446	G.S. State #22	0.059	0.010	0.036	0.022	0.014
17447	G.S. State #29	0.004	<0.001	<0.001	0.035	<0.001
17448	Satellite #4 - #9	0.027	0.005	0.004	0.004	0.002
17449	Satellite #4 - #23	0.004	0.004	0.001	0.003	0.002
	% IA	102	99	97	97	99
	% EA	100	97	97	91	95
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

KalandK. Raland K. Tuttle

<u>4-</u>7-99 Date

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$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Mable Com Sconsever14 2 K   K   K   4-1 Mable Com # 4 Mable Com # 4 Bell A * 6 #13 #44 2 K   K   K   4-1 Bell A * 6 #13 #44 2 R K   K   4-1 Bell A * 6 #13 #44 2 R K   K   4-1 Sch o ST # A *11 * M# 2 EA K   K   K   4-1 Sch o ST # A *11 * M# 2 EA K   K   K   4-1 Sch o ST # A *11 * M# 2 EA K   K   K   4-1 Sch o ST # A *11 * M# 2 * 2 EA K   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *11 * M# 2 * 33   K   K   4-1 Sch o ST # A *10 * 2 * 5 * 100   K   4-1 Sch o ST # A *10 * 7 * 5 * 5 * 100   K   4-1 Sch o ST # A *10 * 7 * 5 * 5 * 100   K   4-1 Sch o ST # A *10 * 7 * 5 * 5 * 7 * 5 * 100   K   4-1 Sch o ST # A *10 * 7 * 5 * 5 * 100   K   4-1 Sch o ST # A *10 * 5 * 5 * 5 * 5 * 5 * 5 * 5 * 5 * 5 *	Mable Com       Solves well $\exists$ $\chi$ </th <th>Mable Com Solves wells       <math>\exists x   t   =  x     x     x     x  </math>         Mable Com # 4       <math>\exists x   x   =  x     x     x      x  </math>         Bell A = 6 #13 #/4       <math>\exists x   x   =  x     x     x      x  </math>         Bell A = 6 #13 #/4       <math>\exists x   x   =  x     x      x      x      x      x      x  </math>         Bell A = 6 #13 #/4       <math>\exists x   x    x    x    x    x    x    x  </math></th> <td></td> <td>103 103 107 107 107 107 107 107 107 107</td> <td>1005       1005       1005       1005       1005       11001</td> <td>102 102 102 102 102 102 102 103 103 103 103 104 103 104 105 103 104 105 104 105 104 105 104 105 107 107 107 107 107 107 107 107</td> <td></td> <td>  </td> <td>      X</td> <td></td> <td></td> <td></td> <td>5</td> <td>มะ มะเ</td> <td>IVA Cc</td> <td>428</td>	Mable Com Solves wells $\exists x   t   =  x     x     x     x  $ Mable Com # 4 $\exists x   x   =  x     x     x      x  $ Bell A = 6 #13 #/4 $\exists x   x   =  x     x     x      x  $ Bell A = 6 #13 #/4 $\exists x   x   =  x     x      x      x      x      x      x  $ Bell A = 6 #13 #/4 $\exists x   x    x    x    x    x    x    x  $		103 103 107 107 107 107 107 107 107 107	1005       1005       1005       1005       1005       11001	102 102 102 102 102 102 102 103 103 103 103 104 103 104 105 103 104 105 104 105 104 105 104 105 107 107 107 107 107 107 107 107		  	X				5	มะ มะเ	IVA Cc	428
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TIPPERARY OIL & GAS 633 17TH DENVER, COLORADO 80202 FAX: 281-646-8996 (Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water Project : Tatum Dileneation Project Location: Tatum, New Mexico Analysis Date: 03/17/99 Sampling Date: 03/17/99 Sample Condition: Intact/loed

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m.p-XYLENE (mg/l)	o-XYLENE (mg/l)	
17265	#25 Bell	0.006	0.004	0.004	0.005	0.004	
17266	#26 NBF	0.002	0.003	0.001	0.002	0.001	
17267	#27 Sohio A	0.118	0.019	0.005	0.004	0.008	
17268	#28 Sohio #1	0.156	0.008	0.003	0.010	0.005	
17269	#29 G.S. State	0.012	0.012	0.004	0.021	0.041	

% IA	104	100	99	98	99
% EA	108	104	101	102	103
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

adk indi

-<u>26-99</u>



**TIPPERARY OIL & GAS** 633 17TH DENVER, COLORADO 80202 FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water **Project : Tatum Dileneation** Project Location: Tatum, N.M.

Analysis Date: See below Sampling Date: 3/17/99 Sample Condition: Intact/Iced

		Ca	Mg	Na	K	Chloride	Sulfate	CO3	HCO3
ELT#	Field Code	(mg/L)	(mg/L)	(mg/L)	. (mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
17265	#25 Bell	189	46	281	8.7	851	300	0	159
17266	#26 NBF	31.4	16	65	6.4	53	175	0	159
17267	#27 Sohio A	144	78	377	16.2	1028	195	0	329
17268	#28 Sohio #1	715	140	4660	20.8	8685	195	0	329
17269	#29 G.S. State	178	44	1 <b>02</b>	8.1	487	150	0	281
	ANALYSIS DATE	3/24/99	3/24/99	3/24/99	3/24/99	3/18/99	3/18/99	3/18/99	3/18/99
	QUALITY CONTROL	53.9	5.1	55.9	5.2	5140	48		*
	TRUE VALUE	50.0	5.0	50.0	5.0	5000	50	*	*
	% PRECISION	108	102	111	104	103	96	*	<b>•</b> .

METHODS: EPA 4.1.1. 215.1.242.1, 273.1, 258.1, 325.3, 375.4, 310.2.

CK Turl Raland K

3-26-99 Date



TIPPERARY OIL & GAS 633 17TH DENVER, COLORADO 80202 FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water Project : Tatum Dileneation Project Location: Tatum, N.M. Analysis Date: Hg 3/23/99 Analysis Date: 3/25/99 Sampling Date: 3/17/99 Sample Condition: Intact/loed

#### TOTAL METALS (mg/L)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
17265	#25 Bell	ND	ND	0.250	ND	0.0110	ND	ND	ND
17266	#26 NBF	ND	ND	0.201	ND	0.0060	ND	ND	ND
17267	#27 Sohio A	ND	ND	0.276	ND	0.0110	ND	ND	ND
17268	#28 Sohio #1	ND	0.028	0.709	ND	0.0220	ND	0.0090	ND
17269	#29 G.S. State	ND	ND	0.369	ND	0.0080	ND	ND	ND
	REPORTING LIMIT	0.0050	0.005	0.010	0.0010	0.0050	0.00020	0.0030	0.0050
	ND = Not detected at the reporting	limit.							
	% INSTRUMENT ACCURACY	100	106	95	100	94	103	98	112
	% EXTRACTION ACCURACY	96	104	97	100	96	96	99	102
	METHODS: EPA 200.7, 245.2								

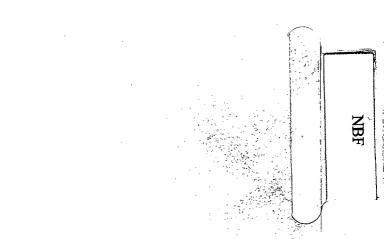
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3-26-99

Bequest for Analysis	ب بر العال المحمد المحم المحمد المحمد br>والمحمد المحمد لمحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد لمحمد المحمد						Yellow Copy Retained by Client Pink Copy Retained by Sampler
GULF STATES JALYTICAL 6310 Rothway, Houston, Texas 77040 (713) 690-4444, Fax (713) 690-5646	Address: Denven, CO Tele #: Address: Denven, CO Tele #: \$03000 Fax #: PO #: PO #: Project #: Project Location: Ov Tatium, NM	<b>Date Tim</b>	-17 8'b v -17 8'b v -17 8'36 v -17 8'44 v -17 6'05 v -17 6'05 v -17 6'05 v			Requested Turnaround Special Detection Limits M. พ.ศ.ร. วิ GSAI Group:	White Copy to Accompany Samples to Lab
• M. "quishe	project Name: Tatum Diferent: (Siguatric) Applied for Tatum Diferent: Applied for Applied	And the second s	1. # 25 Bell ( A BE NBE ( Beceived phile # 1 Beceived phile # 1 Beceived phile # 1	QIDateDateDate	ciciTime:1345Time:Time:	Remarks:	SOUTHERN LITHOGRAPH, INC (713) 780-0400



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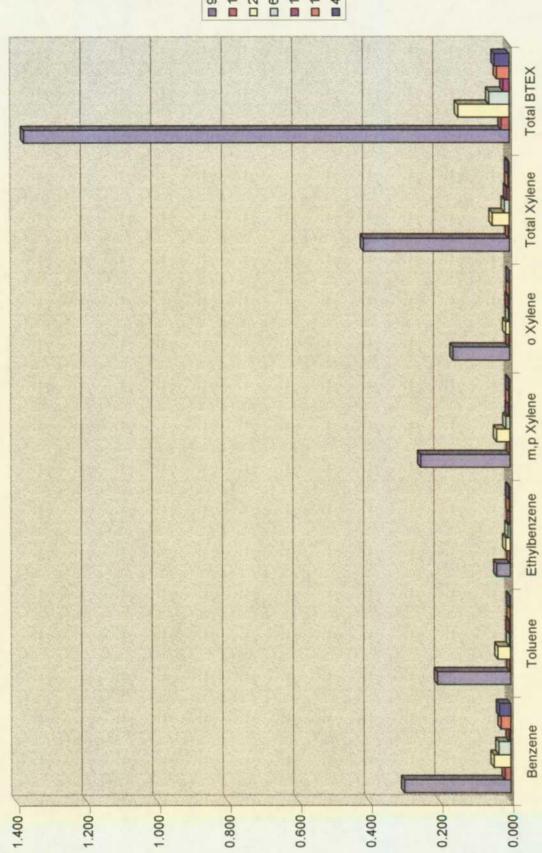


### Monitor Well # 8 State NBF # 1 Sampling Results

Lab.#	12486	13175	14064	14663	15595	16602	17431
Sample Date	9/5/97	12/3/97	2/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	0.302	0.017	0.048	0.034	0.005	0.028	0.032
Toluene	0.208	0.002	0.036	0.003	0.004	0.001	0.002
Ethylbenzene	0.039	0.001	0.013	0.007	0.001	0.003	0.004
m,p Xylene	0.253	0.001	0.038	0.011	0.004	0.003	0.003
o Xylene	0.161	0.002	0.011	0.003	0.004	0.001	0.001
Total Xylene	0.414	0.003	0.049	0.014	0.008	0.004	0.004
Total BTEX	1.377	0.023	0.146	0.058	0.018	0.036	0.042



**NBF # 8** 



9/5/97
9/5/97
12/3/98
2/23/98
6/25/98
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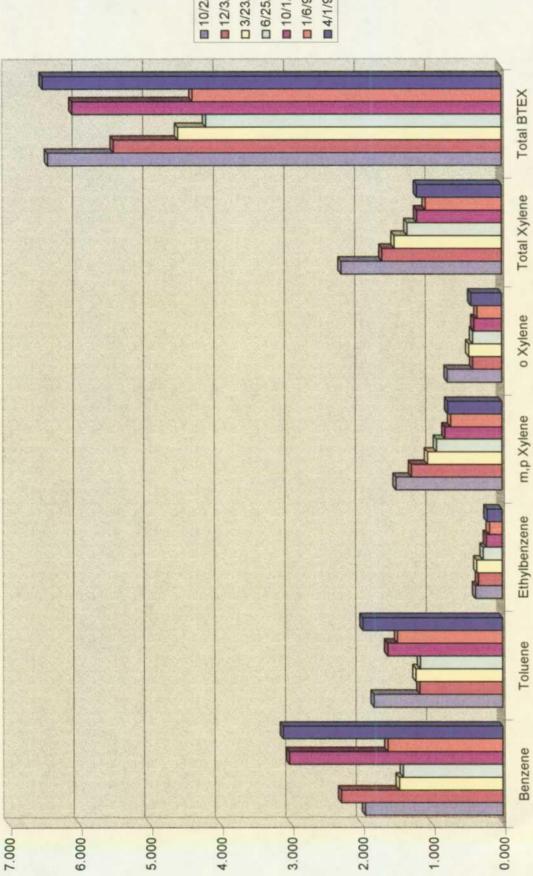
## Monitor Well # 15 State NBF Sampling Results

Lab#	12729	13133	14049	14669	15600	16608	17435
Sample Date	10/2/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	1.950	2.289	1.47	1.415	3.027	1.630	3.110
Toluene	1.823	1.176	1.23	1.165	1.630	1.490	1.980
Ethylbenzene	0.381	0.338	0.364	0.27	0.225	0.182	0.214
m,p Xylene	1.506	1.285	1.058	0.927	0.811	0.728	0.767
o Xylene	0.772	0.411	0.466	0.412	0.393	0,350	0.435
Total Xylene	2.278	1.696	1.524	1.339	1.204	1.078	1.202
Total BTEX	6.432	5.499	4.588	4.189	6.086	4.380	6.506



NBF # 15

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10/2/97 □ 3/23/98 □ 6/25/98 10/1/98 12/3/97 1/6/99 **a** 4/1/99



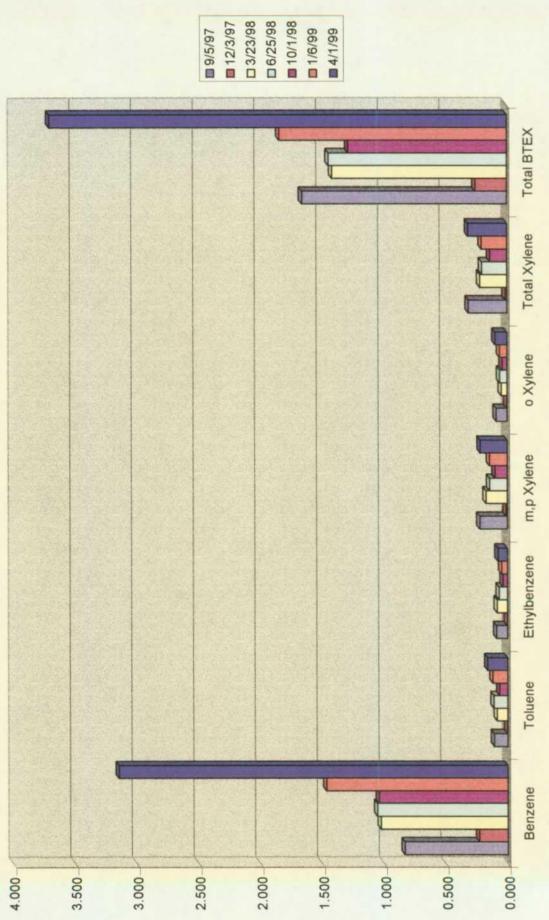
### Monitor Well # 16 State NBF # 1 Sampling Results

Lab.#	12730	13176	14050	14670	15608	16609	17436
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99	4/1/99
Benzene	0.835	0.234	1.029	1.058	1.046	1.470	3.150
Toluene	0.111	0.003	0.086	0.113	0.065	0.122	0.164
Ethylbenzene	060.0	0.004	0.084	0.070	0.037	0.047	0.078
m,p Xylene	0.224	0.012	0.173	0.145	0.100	0.144	0.219
o Xylene	0.089	0.003	0.047	0.060	0.039	0.062	0.098
Total Xylene	0.313	0.015	0.220	0.205	0.139	0.206	0.317
Total BTEX	1.662	0.256	1.419	1.446	1.287	1.845	3.709





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TIPPERARY OIL & GAS 633 17TH DENVER, COLORADO 80202 FAX: 281-646-8996 (Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water Project : Tatum Dileneation Project Location: Tatum, New Mexico Analysis Date: 03/17/99 Sampling Date: 03/17/99 Sample Condition: Intact/loed

ELT#	FIELD CODE	BENZENE (mg/l)	TOLUENE (mg/l)	ETHYLBENZENE (mg/l)	m,p-XYLENE (mg/l)	o-XYLENE (mg/l)	<u></u>
17265	#25 Bell	0.006	0.004	0.004	0.005	0.004	
17266	#26 NBF	0.002	0.003	0.001	0.002	0.001	
17267	#27 Sohio A	0.118	0.019	0.005	0.004	0.008	
17268	#28 Sohio #1	0.156	0.008	0.003	0.010	0.005	
17269	#29 G.S. State	0.012	0.012	0.004	0.021	0.041	

% IA	104	100	99	98	99
% EA	108	104	101	102	103
BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020,5030

Kaladk Inorto

Raland K. Tuttle

26-95



TIPPERARY OIL & GAS 633 17TH DENVER. COLORADO 80202 FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water Project : Tatum Dileneation Project Location: Tatum, N.M.

Analysis Date: See below Sampling Date: 3/17/99 Sample Condition: Intact/Iced

		Ca	Mg	Na	ĸ	Chloride	Sulfate	CO3	HCO3	
ELT#	Field Code	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	,
17265	#25 Bell	100	46	201	07	0/51	300	0	159	
		189	46	281	8.7	851		-		
17266	#26 NBF	31.4	16	65	6.4	53	175	0	159	
17267	#27 Sohio A	144	78	377	16.2	1028	195	0	329	
17268	#28 Sohio #1	715	140	4660	20.8	8685	195	0	329	
17269	#29 G.S. State	178	44	102	8.1	487	150	0	281	
· ·	ANALYSIS DATE	3/24/99	3/24/99	) 3/24/99	3/24/99	3/18/99	3/18/99	3/18/99	3/18/99	
	QUALITY CONTROL	53.9	5.1	55.9	5.2	5140	48	. •	*	
	TRUE VALUE	50.0	5.0	50.0	5.0	5000	50	*	*	
	% PRECISION	108	102	111	104	103	96	*	. •	

METHODS: EPA 4.1.1, 215.1,242.1, 273.1, 258.1,325.3, 375.4, 310.2.

Raland

5-26-95 Date



TIPPERARY OIL & GAS 633 17TH DENVER, COLORADO 80202 FAX: 281-646-8996(Mike Griffin)

Receiving Date: 03/17/99 Sample Type: Water Project : Tatum Dileneation Project Location: Tatum, N.M. Analysis Date: Hg 3/23/99 Analysis Date: 3/25/99 Sampling Date: 3/17/99 Sample Condition: Intact/loed

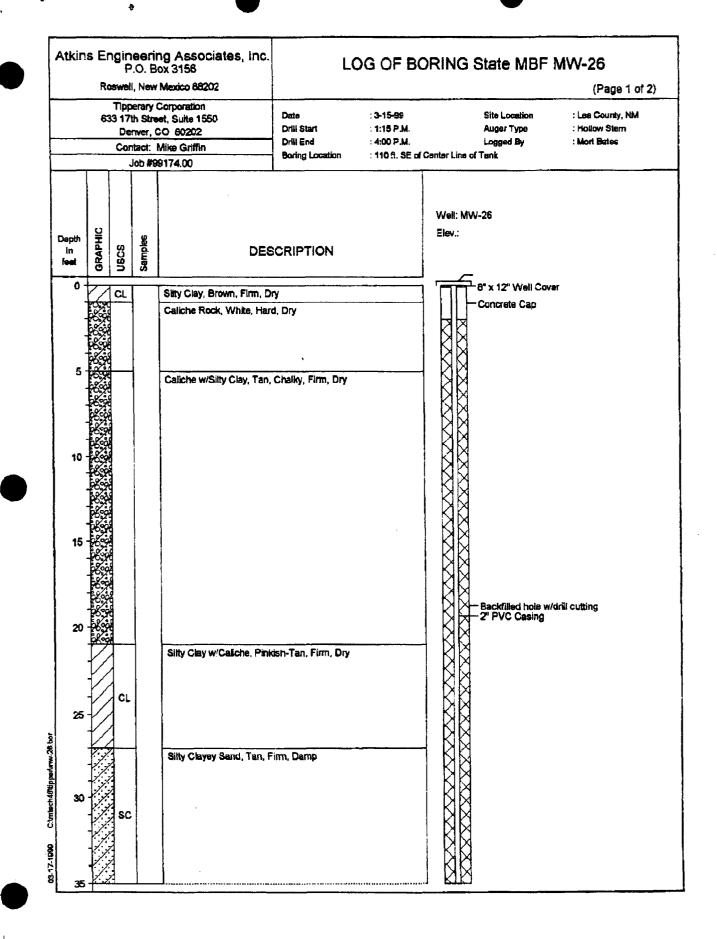
#### TOTAL METALS (mg/L)

ELT#	Field Code	Ag	As	Ba	Cd	Cr	Hg	Pb	Se
17265	#25 Bell	ND	ND	0.250	ND	0.0110	ND	ND	ND
17266	#26 NBF	ND	ND	0.201	ND	0.0060	ND	ND	ND
17267	#27 Sohio A	ND	ND	0.276	ND	0.0110	ND	ND	ND
17268	#28 Sohio #1	ND	0.028	0.709	ND	0.0220	ND	0.0090	ND
17269	#29 G.S. State	ND	ND	0. <b>369</b>	ND	0.0080	ND	ND	ND
	REPORTING LIMIT	0.0050	0.005	0.010	0.0010	0.0050	0.00020	0.0030	0.0050
	ND = Not detected at the reporting	limit.							
	% INSTRUMENT ACCURACY	100	106	95	100	94	103	98	112
	% EXTRACTION ACCURACY	96	104	97	100	96	96	99	102

METHODS: EPA 200.7, 245.2

26-99

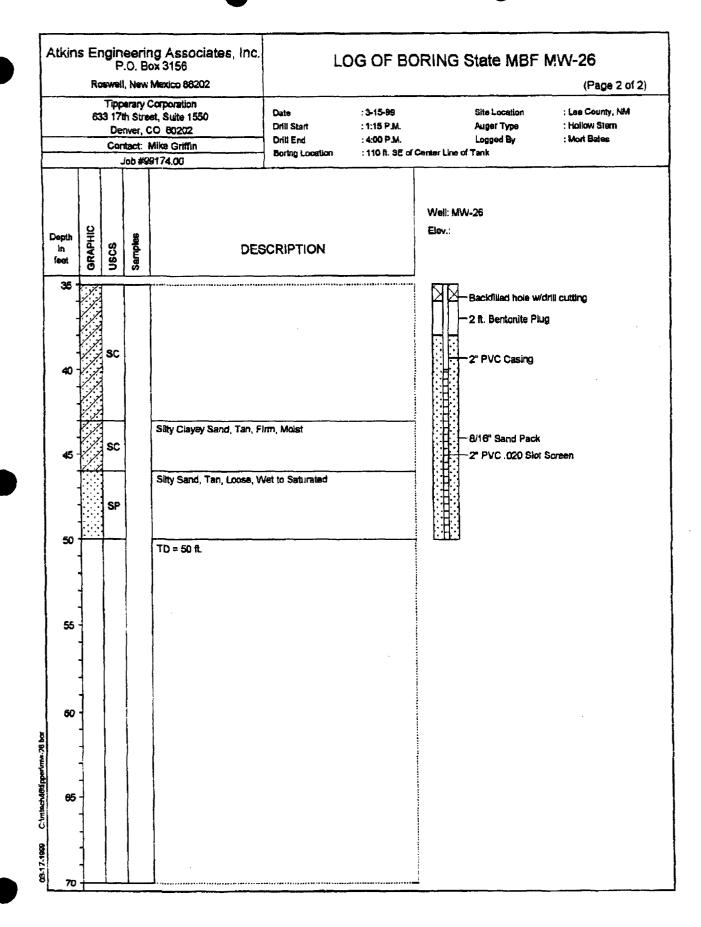




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Atkins Eng Assoc









OIL CONSERVATION DIVISION 2040 South Pacheco Street Santa Fe, New Mexico 87505 (505) 827-7131

March 29, 1999

#### CERTIFIED MAIL RETURN RECEIPT NO. Z-274-520-638

Mr. Larry Sugano Tipperary Corporation 633 Seventeenth St., Suite 1550 Denver, Colorado 80202

#### **RE: TATUM PIT CLOSURES**

Dear Mr. Sugano:

The New Mexico Oil Conservation Division (OCD) has reviewed Tipperary Corporation's (TC) February 16, 1999 "January 1999 PROGRESS REPORT, TATUM PIT CLOSURE PROJECT, LEA COUNTY, NEW MEXICO". This document contains the results of TC's monitoring of ground water contamination related to the closure of 10 unlined pits west of Tatum, New Mexico and requests final closure of the remedial actions related to unlined pits at the Iva Com #1, Mable Com #1, State NBN #1 and Vera #1 sites. The document also requests an extension of the deadline for submission of a report on ground water investigations from April 1 to May 1, 1999.

a above referenced deadline extension request is approved.

order to complete a review of the above referenced closure requests, the OCD requires that TC submit a water table potentiometric map for each of the 10 sites which shows the location of the pit and excavated areas, the surveyed locations of all monitor wells and recovery wells and any other pertinent site features as well as the direction and magnitude of the hydraulic gradient created using the water table elevation in each monitor well.

If you have any questions, please call me at (505) 827-7154.

Sincerely

William C. Olson Hydrologist Environmental Bureau

xc: Chris Williams, OCD Hobbs District Office Mike Matush, NM State Land Office Mike Griffin, Whole Earth Environmental, Inc.



633 Seventeenth Street Suite 1550 Denver, Colorado 80202

FEB 2 2 1999

February 16, 1999

**CERTIFIED MAIL** 

Mr. William C. Olson New Mexico Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

RE: January 1999 Progress Report Tatum Pit Closure Project Lea County, NM

Dear Mr. Olson:

Please find enclosed additional results from our monitor wells in the subject project area. These results are from water samples taken on January 8, 1999. These samples represent the sixth quarter of monitoring. The total BTEX concentrations continue to decline. We will continue to analyze water samples quarterly from the subject project.

Because the following wells have had at least four consecutive quarters of acceptable BTEX concentrations, we formally request final closure for these projects: Vera (pit and monitor well #5), State NBN (pit and monitor well #7), Iva Com (monitor wells #1 & #2), Mable Com (monitor well #3). Please advise if this request is acceptable.

In response to your January 15, 1999 correspondence, please be advised that we are scheduling the installation of additional monitor wells in accordance with the conditions set forth in your letter. Additionally, we respectfully request an extension until May 1, 1999 to submit our next progress report rather than the April 1 deadline specified in your letter. This will allow us to stay on our current quarterly monitoring schedule. Please advise if this is not acceptable.

If you have any questions, please call me at (303) 293-9379.

Very truly yours,

Lany G Degamo

Larry G. Sugano Vice President - Engineering

cc: NMOCD Hobbs Office

Enclosures







#### Iva COM

#### Monitor Wells # 1, 2

No sample from either Iva COM well has ever revealed a BTEX component concentration in excess of standards. Tipperary may request closure of monitor wells nos. 1 and 2. The source well is still producing free product on occasion and has not been tested for BTEX.

#### Mable COM

#### Monitor Wells # 3, 4

Monitor well # 3 has recorded four consecutive quarters of acceptable BTEX concentrations. Tipperary may request closure of this well. Well # 4 has shown two consecutive quarters of acceptable BTEX concentrations. The source well has not been tested for BTEX.

#### Vera

#### Monitor Well #5

Monitor well # 5 has shown six consecutive quarters of acceptable concentrations. Tipperary may request closure of the pit and monitor well.

#### Bell

#### Monitor Wells # 6, 13, 14

Monitor well # 13 has gone two quarters with acceptable concentrations. Wells # 6 & 14 continue to show benzene concentrations in excess of standards. Such concentrations are consistently trending lower. A delineation well is required for this site.

#### NBN

#### Monitor Well #7

Monitor well # 7 has shown four consecutive quarters of acceptable concentrations. Tipperary may request closure of the pit and monitor well.

#### NBF

#### Monitor Wells # 8, 15, 16

All well BTEX concentrations exceed standards. A delineation well is required for this site.



#### Sohio State # 1

Monitor Wells # 10

Though trending steadily downward, all well sample concentrations exceed standard. A delineation well is required for this site.

#### Sohio State "A"

Monitor Well # 11, 19, 20

The benzene concentrations in all three wells are trending sharply downward. At the present rate of decline, wells 19 & 20 will become delineation wells through natural attenuation within six months.

#### GS State #1

#### Monitor Wells # 12, 21, 22

Monitor well # 12 continues to contain free product. BTEX concentrations in wells 21 & 22 are trending downward though not as sharply as similar sites. Well # 12 should be evaluated for potential as a source well. A delineation well is required for this site.

#### Satellite # 4

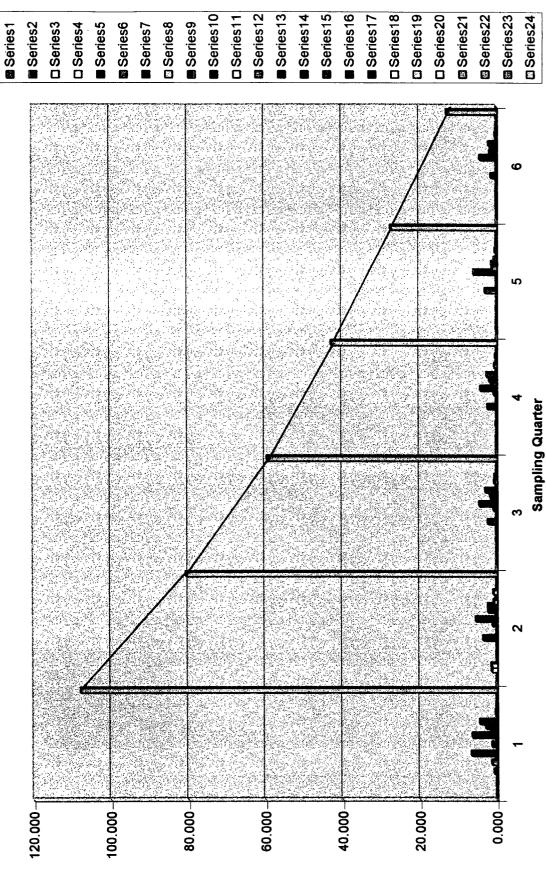
#### Monitor Wells # 9, 23, 24

Well # 24 has shown four quarters of acceptable concentrations. The reported benzene concentrations from Well # 23 have been quite erratic but appear to be generally trending downward. Well # 23 presently shows acceptable concentrations. Well # 9 is steadily trending lower in benzene and should fall within acceptable limits within the next few sampling rounds.



#### Tipperary Corporation Tatum Pit Closure Project Quarterly Sampling Comparison

Well #	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99
1	0.012	0.025	0.022	0.030	0.023	0.011
2	0.005	0.013	0.011	0.010	0.010	0.010
3	0.200	1.387	0.054	0.071	0.093	0.073
4	0.031	1.501	0.047	0.049	0.013	0.019
5	0.019	0.025	0.011	0.037	0.015	0.011
6	0.790	0.068	0.281	0.249	0.141	0.137
7	0.005	0.023	0.017	0.048	0.023	0.008
8	1.377	0.023	0.146	0.058	0.018	0.036
9	0.285	0.123	0.007	0.081	0.050	0.049
10	6.626	3.626	2.292	2.423	3.096	1.532
11	0.122	0.124	0.184	0.141	0.108	0.105
13	1.346	0.010	0.037	0.056	0.017	0.007
14	0.005	1.183	0.918	0.764	0.184	0.161
15	6.432	5.499	4.588	4.189	6.086	4.380
16	1.662	0.256	1.419	1.446	1.287	1.845
17	2.908	2.305	1.863	1.920	1.419	1.665
18	4.498	2.361	3.013	2.601	0.786	2.072
19	0.011	0.875	0.184	0.079	0.082	0.094
20	0.454	0.345	0.658	0.604	0.539	0.390
21	0.287	0.953	0.554	0.198	0.238	0.259
22	0.152	0.200	0.195	0.344	0.144	0.134
23	0.009	0.122	0.106	0.008	0.078	0.014
24	0.009	0.064	0.007	0.017	0.007	0.011
	107.873	80.628	59.517	42.903	27.480	13.023



**Tipperary Quarterly Sampling Comparison** 

X318 JTT

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

TIPPERARY ATTN: MR. VICTOR A. VICE P.O. BOX 857 TATUM, NM 88267 FAX: 505-398-6510 FAX: 281-648-8996

Receiving Date: 01/08/99 Sample Type: Water Project : None Given Project Location: Tatum. New Mexico 88237

Analysis Date: 01/08/99 Sampling Date: 01/06 & 01/07/99 Sample Condition: Intact/iced/HCI

ELT#	FIELD CODE	BENZENE	TOLUENE (moji)	ETHYLBENZENE (mg/l)	m.p-XYLENE (mg/l)	o-XYLENE (mg/)
16587	8ohio St. #1 • #17	0.875	0,138	0.094	0.3 <b>39</b>	0.163
16588	Sohio Si. #1 - #18	1.10	0.247	0.107	0.415	0.203
16589	Sohio Sta, MAW #19	0.040	0.014	0.006	0.021	0.013
18590	Sohio Sal. M/W #20	0.341	0.010	0.005	0.026	0.008
16591	GS State WW #21	0.133	0.010	0.054	0.056	0.006
16592	GS State M/W #22	0.039	0.010	0.020	0.048	0.017
18593	Sat. #4 M/W #23	0.004	0.003	0.001	0.004	0.002
16594	Sal. #4 14/W #24	0.004	0.003	<0.001	0,002	<0.001
16595	Na Cont. MW #1	0.003	0.001	<0.001	0.002	0.004
16596	NA Com. MW #2	0.004	0.001	<0.001	0.003	0.001
18597	Meble Com, M/W #3	<0.001	0.002	0.012	0.042	0.016
16598	Mable Com. MAN #4	0.007	0.002	0.002	0.006	0.002
16599	Vera M/W #5	0.002	0.002	0.001	0.004	0.002
16600	Bell A M/W NB	0.127	0.001	0.003	0.005	0.001
16601	NBN M/W #7	0.003	<0.001	<0.001	0.002	<0.001
16602	NBF MAW #9	0.028	0.001	0.003	0.003	<0.001
16603	Sat. 4 M/W HO	0.034	0.003	0.006	0.005	0.001
16604	800 St. #1 M/W #10	1.00	0.067	0.156	0.214	0.095
16805	Sohio Bla. N/W #11	0.061	0.011	0.005	0.016	0.012
16606	Bell A M/W #13	0.001	<0.001	<0.001	0.003	0.001
16607	Bell A WW #14	0,154	<0.001	0.002	0.003	0.001
16608	NEF MAW #15	1.63	1.49	0.182	0.728	0.350
16609	NBF M/W #16	1.47	0.122	0.047	0.144	0.082
	% IA	86	85	87	85	87
	% EA	90	90	89	88	90
	BLANK	<0.001	<0.001	<0.001	<0.001	<0.001

METHODS: SW 846-8020.5030

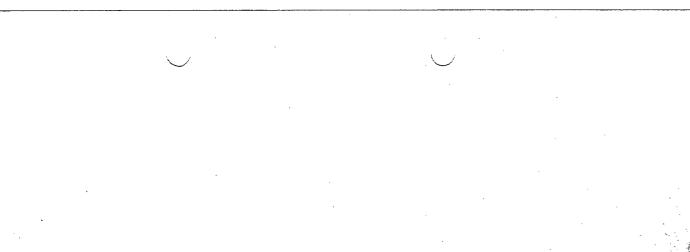
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Raland K. Tuttle

<u>1-11-99</u> Date

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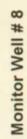
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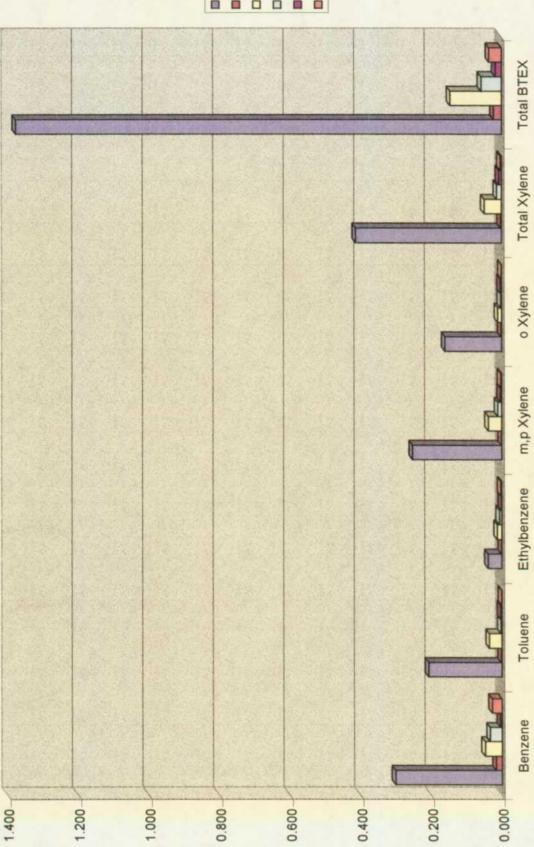


### Monitor Well # 8 State NBF # 1 Sampling Results

Lab.#	12486	13175	14064	14663	15595	16602
Sample Date	9/5/97	12/3/97	2/23/98	6/25/98	10/1/98	1/6/99
Benzene	0.302	0.017	0.048	0.034	0.005	0.028
Toluene	0.208	0.002	0.036	0.003	0.004	0.001
Ethylbenzene	0.039	0.001	0.013	0.007	0.001	0.003
m,p Xylene	0.253	0.001	0.038	0.011	0.004	0.003
o Xylene	0.161	0.002	0.011	0.003	0.004	0.001
Total Xylene	0.414	0.003	0.049	0.014	0.008	0.004
Total BTEX	1.377	0.023	0.146	0.058	0.018	0.036

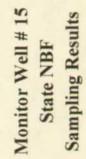






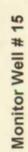
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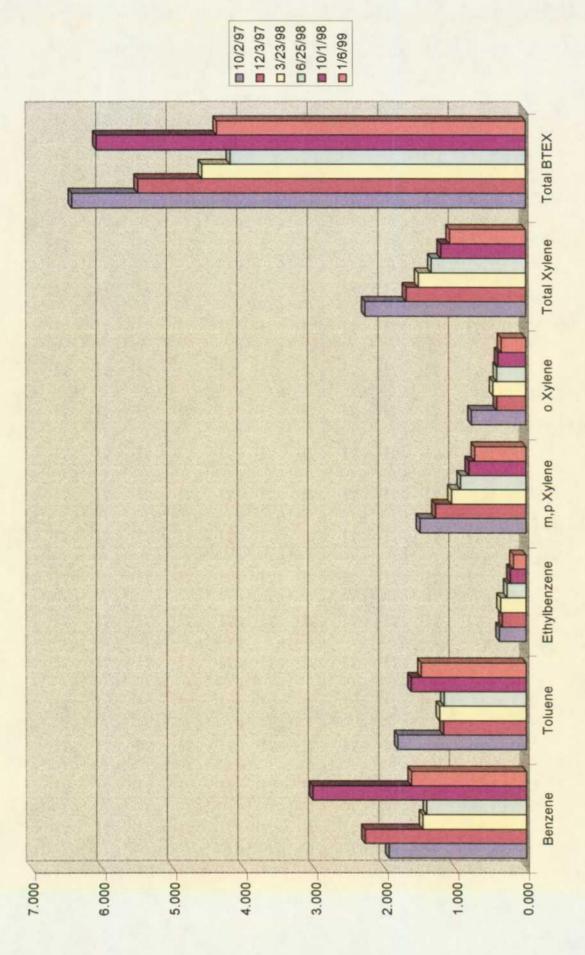




Lab#	12729	13133	14049	14669	15600	16608
Sample Date	10/2/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99
Benzene	1.950	2.289	1.47	1.415	3.027	1.630
Toluene	1.823	1.176	1.23	1.165	1.630	1.490
Ethylbenzene	0.381	0.338	0.364	0.27	0.225	0.182
m,p Xylene	1.506	1.285	1.058	0.927	0.811	0.728
o Xylene	0.772	0.411	0.466	0.412	0.393	0,350
Total Xylene	2.278	1.696	1.524	1.339	1.204	1.078
Total BTEX	6.432	5.499	4.588	4.189	6.086	4.380



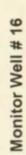


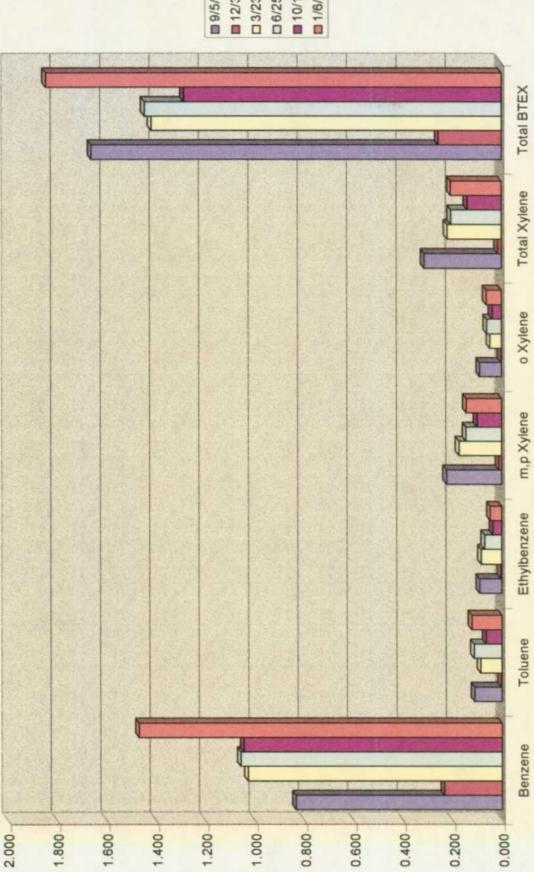


## Monitor Well # 16 State NBF # 1 Sampling Results

Lab.#	12730	13176	14050	14670	15608	16609
Sample Date	9/5/97	12/3/97	3/23/98	6/25/98	10/1/98	1/6/99
Benzene	0.835	0.234	1.029	1.058	1.046	1.470
Toluene	0.111	0.003	0.086	0.113	0.065	0.122
Ethylbenzene	0.090	0.004	0.084	0.070	0.037	0.047
m,p Xylene	0.224	0.012	0.173	0.145	0.100	0.144
o Xylene	0.089	0.003	0.047	0.060	0.039	0.062
Total Xylene	0.313	0.015	0.220	0.205	0.139	0.206
Total BTEX	1.662	0.256	1.419	1.446	1.287	1.845







□ 3/23/98 0/25/98 10/1/98 12/3/97 ■ 9/5/97 1/6/99

